

LEGELEY, K. B.

"The Distribution of Valuable Elements in the Beneficiation Process of the Dahezkazgan and Kounradskiy Ores and in the Betallurrical Processing of Concentrates."

report presented at the Conference on Benefication of Useful Minerals, spousored by the Learned Council of the ISB, AS MINR, Balakhash Maragands, 29 Nov - 4 Dec 1960.

PHASE I BOOK EXPLOITATION

sov/3595

Lebedev, Konstantin Borisovich, Candidate of Technical Sciences

Reniy (Rhenium) Moscow, Metallurgizdat, 1960. 99 p. 2,600 copies printed.

Reviewers: A.N. Zelikman, Professor, Doctor of Technical Sciences, and V.I. Bibikova, Candidate of Technical Sciences; Ed.: L.V. Belyayevskaya; Ed. of Publishing House: L.M. El'kind; Tech. Ed.: L.V. Dobuzhinskaya.

PURPOSE: This book is intended for technical and scientific personnel in the metallurgy of rare metals.

COVERACE: This book deals with rhenium, its occurrence, recovery and processing. It describes the physical and chemical properties of rhenium and its compounds, as well as various applications of rhenium including its possible application in jet engineering. It reviews the methods for rhenium extraction in the Soviet Union and in the West, and presents re-evaluated data on Soviet rhenium sources. The author thanks A.N. Zelikman, Doctor of Technical Sciences, sources. The author of Technical Sciences, and L.V. Belyayevskaya, Candidate V.I. Bibikova, Doctor of Technical Sciences at List of 33 Soviet works on

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S/137/61/000/012/040/149 A006/A101

AUTHOR:

Lebedev, K.B.

TITLE:

Studies of rhenium at the Institute of Metallurgy and Concentration

of the Academy of Sciences, Kazakh SSR

FERIODICAL:

Referativnyy zhurnal. Metallurgiya, no. 12, 1961, 22, abstract 120160 ("Tr. In-ta metallurgii i ologashcheniya, AN KazSSR", 1960,

v. 3, 85 - 89)

TEXT: In 1945-46 the Institute developed together with Giredmet a technological system of extracting Re from dusts of roasted molybienite concentrates. From 1946 investigations have been carried out on extracting Re from solutions by electrolysis; in 1951 - 53 on Re extraction from solutions by the method of cementation on Fe. During 1958-59 a method was developed for capturing Re from the gaseous phase by a solid absorbent, i.e. a CaO headpiece. At the same time a technological system was developed to extract Re from converter justs of copper melting plants. According to that system the crushed dust is subjected to triple lixiviation with a hot soda solution at 5:1 liquid-solid ratio. Soda

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CIA-RDP86-00513R000929020004-5

Studies of rhenium ...

S/137/61/000/012/040/149 A006/A101

consumption is 40% of the dust weight, 90% of Re is dissolved in the solution. From solutions, containing 40 - 60 mg/l Re and about 1 g/l free scda, Re can be extracted by passing the cooled solution through adsorption filters filled with active coal. The total Re extraction into K perchenate is > 70%.

L. Vorob'yeva

[Abstracter's note: Complete translation]

Card 2/2

CIA-RDP86-00513R000929020004-5 "APPROVED FOR RELEASE: 08/31/2001 \$/697/61/000/000/007/018 D228/D304 Extraction of rhenium from the mother liquors of plants producing calcium molybdate Lebedev, K. B. and Rodzhayevskiy, V. V. Akademiya nauk SSSR. Institut metallurgii im. A. A. Bay.

Akademiya nauk mineralogii. geokhimil i kristallokhimi kristallokhimi. Akademiya nauk SSSR. Institut metallurgii im. A. A. Bay. Institut metallurgii im. A. A. Bay. Institut metallurgii im. A. A. Bay. A. Ba kova. Institut mineralogii, geokhimil i kristallokhimiz kova. Institut mineralogii, geokhimil i kristallokhimiz Nezhduvedomstvennaya komissiya po rec-Mezhduvedomstvennaya po probleme re-redkikh elementov. Vsesovuznove soveshchaniye po probleme kim metallam. redkikh elementov. Mezhduvedomstvennaya komissiya po red.

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Noscow;

Noscow; producing calcium molybdate AUTHORS: The authors discuss some recent developments in the Research from the mother liquors of plants producing CaMoO. TEXT: The authors discuss some recent developments in the Research in 1950 by of Re from the mother liquors of plants producing initiated in 1950 by of Re from the mother the cementation method was initiated. TITLE: of Reference of Plants producing CaMoO4. Research in 1950 by in 1950 by initiated in obogash.

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rized. B. N. Zuyev has also studied the influence of the chief in rizea. D. N. Luyev has also studied the influence of the chief the gredients of mother liquors -- NaCl and Na2MoO4 --- on the process Extraction of rhenium ... of Re cementation. The optimum processing conditions recommended of Re cementation. The optimum processing conditions recommended of Re cementation. The optimum processing conditions recommended of Re cementation. The solution of the solution initial acidity of 0.06 g equiv/l for the solution of the treatment of the teatment of the treatment this was used to prepare a cementation ppt. containing 0.51% Re and to prepare a cementation ppt. The methods in which Mo and the Rod Mo Details are also given about two methods in which Mo and 19.82% Mo. Details are also given about two methods in which Mo and Re are respectively extracted from the mother liquor by ion-exception tools are the former Mo in recovered me are respectively extracted from the mother figure by toneen by change and adsorption techniques. In the former Mo is resovered by change and adsorption techniques. means of the anion-exchange resin "Espatite AH-1 (AN-1)" at 30CC means of the anion-exchange resin "Espatite AH-1(AN-1)" at 30°C and a pH of 3, the extraction of Mo being about 96%. This ionite has a total exchange capacity of 30% in terms of the Wt. of absorbed Mo. Water and ammonia are used to regenerate the resin are used to regenerate the resin and ammonia are used to regenerate the resin and ammonia are used to regenerate the resin and ammonia are used to regenerate the resin and a second to reside the resin and a second to regenerate the resin and a second to reside the residence that the residence Mo. Water and ammonia are used to regenerate the resin and remove

the Mo. In the other method Re is first adsorbed on activated carbon as the anion ReO_4^{-2} ; then it is leached from the ash of the cal-

Extraction of rhenium ...

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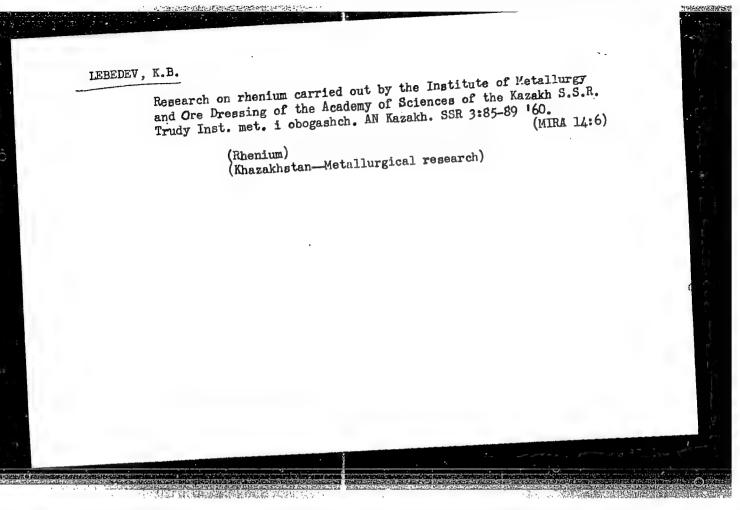
cined carbon and ppt. with KCl. It is noted, too, that a means of regenerating the activated carbon has recently been perfected.

There are 4 Soviet-bloc references.

Card 3/3

Studying the process of calcium molybdate precipitation from solutions containing sulfate ions. Report no.1. Izv.AN Kazakh. SSR.Ser.met.,obog.i ogneup. no.2:32-42 '58. (MIRA 16:2) (Calcium molybdate) (Leaching)

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s/081/62/000/013/021/054 B158/B144

AUTHORS:

Lebedev, K. B., Ageyev, S. A.

TITLE:

Extraction of rhenium from copper concentrates

PERIODICAL:

Referativnyy zhurnal. Khimiya, no. 13, 1962, 395, abstract 13K61 (Izv. al KazSSR. Ser. metallurgii, obogashcheniya i ogneurorov, no. 1 (10), 1961, 48-54)

TEXT: The following methods of extracting rhenium from copper concentrates are considered: hydrometallurgical processing of the concentrates with extraction of the copper, rhenium and other valuable components; choosing a selective solvent for extraction of the rhenium directly from the concentrates; extraction of the rhenium from wastes resulting from processing of copper concentrates by a pyrometallurgical method, particularly from dusts. Experimental data are given on the effect of temperature, duration of processing of the concentrate, and of ultrasonics on the extent to which rhenium passes into solution. [Abstracter's note: Complete translation.

Card 1/1

S/137/62/000/006/055/163 A052/A101

AUTHORS:

Lebedev, K. B., Rodzayevskiy, V. V.

Rhenium extraction from mother liquors of calcium molybdate shops

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 6, 1962, 18, abstract 60139

(In collection: "Reniy", Moscow, AN SSSR, 1961, 62 - 66)

As a result of processing poor Mo-concentrates after Ca molybdate precipitation mother liquors form which contain up to 30 mg/l Re. From mother liquors Mo is extracted selectively with the anionite "Espatit AN-1". Re is separated from Mo and in the following process is collected by activated carbon. The extraction of Mo from the mother liquor makes up 96% on an average. A detailed description of the ion-exchange method of Mo extraction and of the adsorption method of Re concentration is given. As a result of processing Mo-concentrates solutions are obtained containing 400 - 500 mg/l Re, they are evaporated to 12 - 15 g/l Re content, and Re is precipitated in the form of $KReO_{4}$ with a threefold amount of KCl. G. Svodtseva

[Abstracter's note: Complete translation]

Card 1/1

CIA-RDP86-00513R000929020004-5" APPROVED FOR RELEASE: 08/31/2001

\$/137/62/000/006/019/163 A006/A101

AUTHOR:

Lebedev, K. B.

TITLE:

The possibility of increasing the industrial volume of rhenium

production

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 6, 1962, 3, abstract 6G21

(In collection: "Reniy", Moscow, AN SSSR, 1961, 3 - 6)

In 1960, about 5 tons of Re were produced in the United States and TEXT: the world production was 10 tons without the USSR. At the present, Re is being mainly produced from wastes of processing Mo-concentrates. To increase Re production from Mo and Cu-concentrates, new flotation methods should be used assuring the complete Re transfer either into concentrates or solutions; Re should be extracted from flotation waters at the existing plants; from Cu concentrates prior to their metallurgical processing, and from metallurgical dusts. New methods of processing Cu-concentrates, such as cyclone melting; melting in suspended state; electric melting and hydrometallurgy, must be brought into use.

[Abstracter's note: Complete translation]

L. Vorob'yeva

Card 1/1

"APPROVED FOR RELEASE: 08/31/2001

CIA-RDP86-00513R000929020004-5

s/137/61/000/012/041/149 A006/A101

AUTHORS:

Lebedev, K.B., Ageyev, S.A. On the problem of rhenium extraction from copper conventrates

TITIE:

PERIODICAL:

Referativnyy zhurnal. Metallurgiya, no. 12, 1961, 22-23, abstract 120161 (Izv. AN KazSSR, Ser. metallurgii, obogashcheniya i ogneupo-rov, 1961, no. 1 (10), 48 - 54, Kaz. summary)

The authors studied conditions of Re-transition into a solution, when processing the concentrates with various reagents and by indirect determinawhen processing the concentrates with various reagons and by indirect determina-tion of the form of Re-occurrence in Cu concentrates. If Cu-sulfide concentrates are processed with water during a Sufficiently long period of time at high temperature, 30% of Re, contained in the concentrate, can be dissolved in the solution. If the concentrate is processed with alkaline solutions (soda or caustic Na) the degree of Re dissolving in the solution increases noticeably, depending on temperature and somewhat less on the duration of processing. When the concenor temperature and somewhat less on the duration of processing. When the content trate is processed during 4 hours at 60 - 70°C, 65 - 70% of Re can be dissolved in the solution. More than 50% of Re can be dissolved in the solution with alkaline solutions under the following conditions: 50 - 60°C; 1 - 2 hours mixing without

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On the problem of rhenium extraction ...

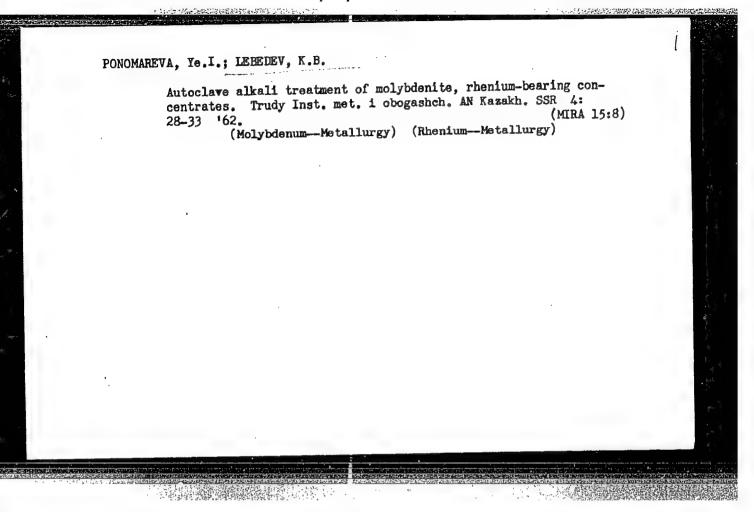
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aeration; alkali consumption - 10 to 15% of the concentrate weight. Multiple processing of the concentrate with alkaline solutions does not noticeably increase Re extraction into the solution. Prolonged lixiviation promotes Re transition into the solution, in particular at elevated temperatures. The use of ultrasonic waves of 21.5 kcycles frequency (under similar conditions) promotes Re transition into the solution. When processing the concentrates with a Na hypochlorite solution it was revealed that changes in the NgOH concentration, within 10 - 50 g/l, do not affect the degree of Re transition into the solution, which is neither influenced by higher temperatures. Under certain conditions 73.3% of Re can be extracted from the concentrate into the Na hypochlorite solution, and

G. Svodtseva

[Abstracter's note: Complete translation]

Card 2/2



IEEEDEV, K.B.; TYUREKHODZHAYEVA, T.Sh.

Rhenium oxidation by atmospheric oxygen during the hydrometallurgical treatment of copper concentrates.

Trudy Inst. met. i obog. AN Kazakh. SSR 5:69-71 '62.

(Rhenium--Netallurgy)

(Hydrometallurgy)

(Hydrometallurgy)

LEBEDEV, K.B.; TYUREKHODZHAYEVA, T.Sh.

Behavior of rhenium and molybdenum sulfides in inorganic solvents.
Trudy Inst. met. i obogashch. AN Kazakh. SSR 4:170-178 '62.
(MIRA 15:8)

(Sulfides--Metallurgy) (Hydrometallurgy)

 LEBEDEV, Konstantin Borisovich; TARANENKO, B.I., otv. red.; FUSHKINA,
L.I., red.; ZHUKOVA, N.D., red; ALFEROVA, P.F., tekhn. red.

[Production of calcium molybdate] Proizvodstvo molibdata kal'tsiia. Alma-Ata, Izd-vo Akad. nauk Kazakhskoi SSR, 1962. 119 p.

(Galcium molybdate)

(Galcium molybdate)

CIA-RDP86-00513R000929020004-5 "APPROVED FOR RELEASE: 08/31/2001 s/817/62/005/000/0014/012 A006/A101 Rhenium okidation with air oxygen in the hydrometallurgical proces-Lebedev, K. B., Tyurekhodzhayeva, T. Sh. Akademiya nauk Kazakhskoy. SSR. Institut metallurgii i obogashcheniva nauk Kazakhskoy. SSR. Institut metallurgii i obogashchenauk Kazakhskoy. Institut metallurgi Akademiya nauk Kazakhskoy SSR. Institut metallurgii i obog Tsvetnaya metallurgiya, 69 - 71 niya. To reveal rhenium concentration in products of copper and molybdenum. To reveal rhenium concentration in products of copper and molybdenum. To reveal rhenium concentration in products of copper and molybdenum. The reveal rhenium concentration in products of copper and molybdenum. sing of copper concentrates To reveal rhenium concentration in products of copper and molybdenum to reveal rhenium concentration in products of copper it is important made and to develop a technique of rhenium extraction, and to develop a technique of metallurgical processes. TEXT: ore processing, and to develop a concentration and metallurgical processes. AUTHORS: ore processing, and to develop a technique of rhenium extraction, it is important or to know its behavior in various concentration and metallurgical processes. The concentration and metallurgical processes to obtain the concentration and metallurgical processes to obtain the concentration and metallurgical processes. to, know its behavior in various concentration and metallurgical processes. obtain with air makes it possible to process pulp bubbling with air makes it possible to process pulp bubbling with air makes it possible to process pulp bubbling with air makes it possible to process pulp bubbling with air makes it possible to process pulp bubbling with air makes it possible to obtain ai determination of the effect of pulp bubbling with air makes it possible to obtain process. determination of the effect of pulp bubbling with air makes it possible to obtain process. If the purpose the authors conducted a series of existing of the concentrates. For this purpose the authors conducted a series of the concentrates. TITLE: information on the behavior of rhenium in flotation and hydrometallurgical process. of examination on the behavior of rhenium in flotation and hydrometallurgical process. The authors conducted a series of examination of the authors without and with air-hod: sing of the concentrates. copper sulfide concentrates were a) the BINK method: The experimental conditions were a the process. The experimental conditions were a the process. The experimental conditions were a the process. SOURCE: periments on leaching-out copper sulfide concentrates without and with air-bubb. The experimental conditions were a) the BINK method: The experimental conditions were a) the BINK method: The experimental conditions were a) the solution: The experimental conditions were a) the solution: The experimental conditions were a) the solution: The experimental conditions were a) the solution of the solution: ling of the concentrate. The experimental conditions were a) the BINK method: The experimental conditions were a properties and the second conditions we = 1:3; the composition of the solution: temperature ~95°C; and duration of mechanical stirring; cium oxide;

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Rhenium oxidation with air oxygen in...

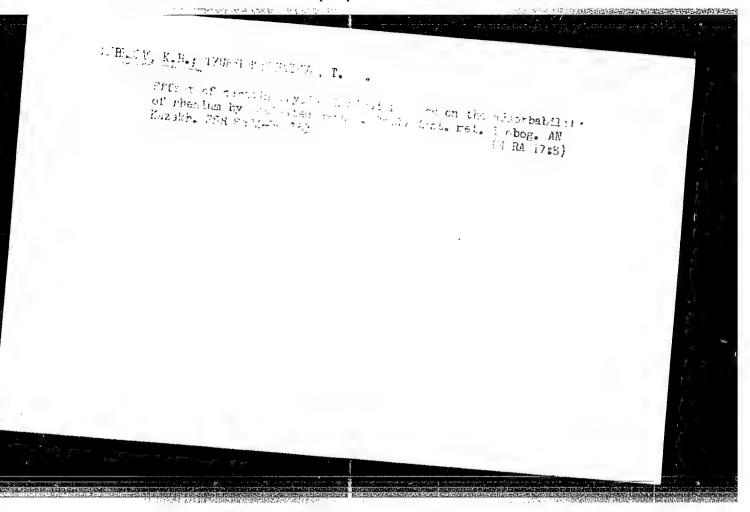
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b) the IM10 method, proposed by the authors: solid:liquid = 1:5; soda solution 30 g/1; mechanical stirring for 5 hours, at ~ 95°C. Aged dry, fresh dry and fresh wet concentrate samples were used. It was found that sample no. 1 was not affected by air bubbling. It is extracted by the IM10 method about 25% more than effect on C: Re extraction increases by 40% (BOMC) and by 19% (IM10). The experiments show that in all cases the IM10 method yields optimum results. Preliminarily dried concentrates should be lixivitated.

During lixivitation the pulp should be subjected to Intensive air bubbling, in

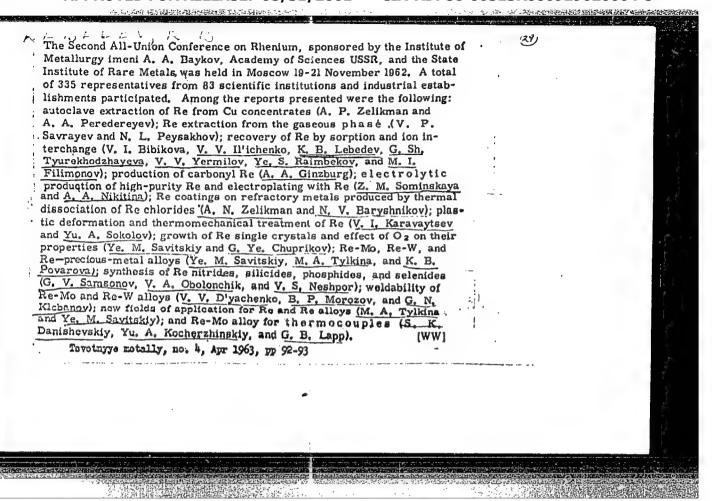
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L 23876-65 EWT(m)/EPR/EWP(t)/EWP(b) Ps-4 IJP(c) JD/MLK 3
ACCESSION NR: AT5002755 S/0000/64/000/0000/0040/0043

AUTHOR: Lebedev, K. B.; Ageyev, S. A.; Okhotnikova, N. A.; Yermilov, V. V.; Raimbekov, Ye. S.; Filimonov, M. I.

TITLE: Recovery of rhenium from copper concentrates by alkaline leaching

SOURCE: Vsesoyuznoye soveshchaniye po probleme reniya. 2d, Moscow, 1962. Reniy
(Rhenium); trudy soveshchaniya. Moscow, Izd-vo Nauka, 1964, 40-43

TOPIC TAGS: rhenium, rhenium extraction, copper concentrate, alkaline leaching, rhenium cementation, potassium perrhenate

ABSTRACT: The authors propose a method for recovering rhenium in which the concentrate (about 30% copper, 3% lead, 2% zinc, and 0.003% rhenium) is leached with sodium hydroxide, rhenium and lead go into solution, and their cementation is then carried out on zinc. A complete flow diagram of the process is given, and the procedure is described in detail. The method is applicable to both copper and copper-lead rhenium-containing concentrates. The final recovery of the metals is tentatively estimated as follows: rhenium in potassium perrhenat, 50-55%; lead in crude lead, 20-25%; zinc in sheet zinc, up to 2%. Orig. art. has: 1 figure

Card 1/2

L 23876-65

ACCESSION NR: AT5002755

and 1 formula.

ASSOCIATION: None

SUEMITTED: 05Aug64 ENCL: 00 SUB CODE: NM

NO REF SOV: 011 OTHER: 000

L' 23880-65 EWT(m)/T MLK

ACCESSION NR: AT5002758

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AUTHOR: Lebedev, K. B., Tyurekhodzhayeva, T. Sh.

BH

TITLE: A study of the conditions for the recovery of rhenium from lean solutions by adsorption on activated charcoal

SOURCE: Vsesoyuznoye soveshchaniye po probleme reniya. 2d, Moscow, 1962. Reniy (Rhenium); trudy soveshchaniya. Moscow, Izd-vo Nauka, 1964, 55-60

TOPIC TAGS: rhenium, rhenium refining, rhenium adsorption, activated charcoal, charcoal exchange capacity, column chromatography

ABSTRACT: The purpose of the investigation was to select the best adsorbent for the recovery of rhenium from solutions at pH 2.6 and 12 containing up to 30 mg rhenium per liter, and to study the influence of certain physicochemical factors and anions present in industrial and natural solutions on the rhenium adsorption capacity of activated charcoals (AG-N, AG-3, AG-5, AR-3, BAU, SKT, KAD, sulfonated coal). The dynamic exchange capacity (DEC) and total exchange capacity (TEC) of the charcoal for rhenium were determined. The best results in the recovery of rhenium were obtained with charcoal AG-N, AG-3, and AG-5 in acid media. The opti-

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mum conditions were: carbon particle size of -1+0.5 mm, flow rate of solution no more than 100 mg/hr. through 3 g of charcoal, and room temperature. In order to increase the activity of the charcoal with respect to rhenium, it is necessary to wash it with a weak (0.01 N) solution of sulfuric acid before use. Elution of rhenium as accomplished with hot solutions of sodium carbonate. The charcoal may be regenerated 3 to 4 times, after which its rhenium activity drops by 60% of the initial value. The anionic impurities studied can be arranged as follows in order of increasing adverse influence on rhenium adsorption: sulfates, chlorides, carbonates, oxysulfides, and xanthogenates. Orig. art. has: 2 figures and 3 tables.

ASSOCIATION: None

SUBMITTED: 05Aug64

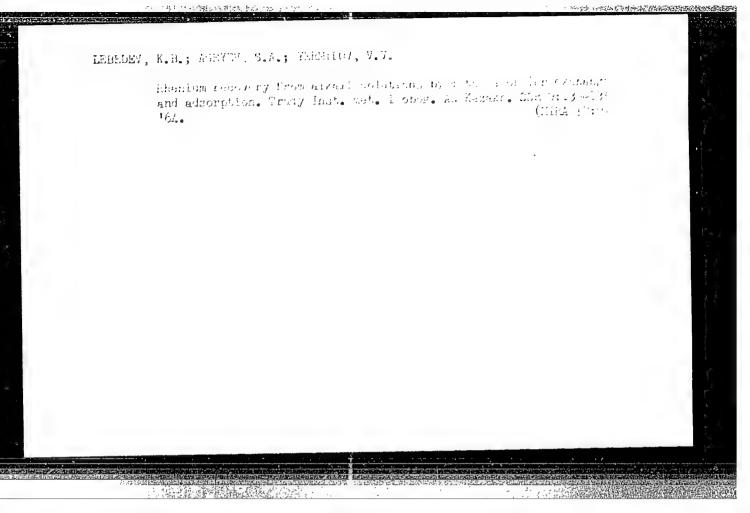
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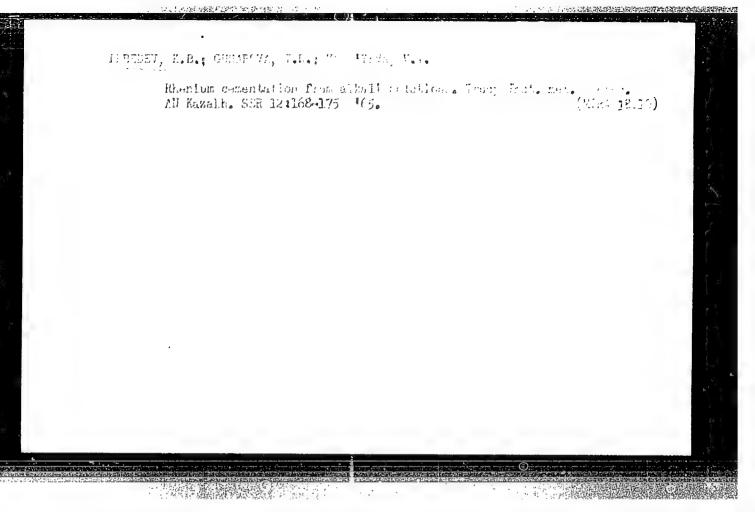
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OTHER: 000

Card 2/2





LEBEDEV, K.B.; TYUREKHODZHAYEVA, T.Sh.

Selecting an adsorbent and a solution medium for the recovery of rhenium and thallium from lean solutions. Trudy Inst. met. i obog. AN Kazakh. SSR 6:1/8-155 163. (MIRA 16:10)

LEBEDEV, K. D., and JVARCHEVSKIY, J. T.

"Test of Remote Bearing Wind Gage," Tr. lav. geofiz. observ., No 43, pp 53-57, 1954

The construction of a small remote bearing wind gage designed by the authors in the Main Geophysical Observatory is described. The design is based on an ac current tachymeter, For remote bearing a dc potentiometer designed by A. P. Sokolovskiy is used. The accuracy of the instrument proved to be satisfactory. (RZhFiz. No 6, 1955)

Sum. No. 681, 7.0ct. 55

LEBEDEV, K. I.
"Investigation of Natural Circulation in Vertical Evaporators."
Thesis for degree of Cand. Technical Sci. Sub. 19 May 49, Moscow

Inst. of Chemical Machine Building.

Summary 82, 18 Dec. 52, <u>Dissertations Presented for Degrees in Science and Engineering in Moscow in 1949</u>. From <u>Vechernyaya</u> Moskva, Jan-Dec. 1949

"APPROVED FOR RELEASE: 08/31/2001

CIA-RDP86-00513R000929020004-5

LEBEDEV, K. I.

USSR/Physics - Dielectric Constants Polarization, Relaxation Dec 49

"Application of the New Method for Studying Relaxation Processes to a Study of Relaxation Polarization in Dielectrics," G. I. Skanavi, N. A. Tolstoy, P. P. Feofilov, K. I. Lebedev, Phys Inst imeni Lebedev, Acad Sci USSR, 9 pp

"Zhur Eksper i Teoret Fiz" Vol XIX, No 12

To study relaxation polarization in dielectrics titanium dioxide with small additions of oxides of metals belonging to the sec nd group of the periodic table (this group gives very high values of e in the region of low frequencies), one employs the oscillographic method of studying, by electrical square-wave impulses through ohmic resistances, the charge and discharge of the condensers containing the dielectric under study. Here a simple exponential development of the process in time is employed, as well as more complicated ones. Shows charge and discharge processes of the condenser with the dielectric under study have a complex character differing from the exponential. Equivalent circuit schemes are found for the dielectrics under study. Parameters of these schemes are determined experimentally. Calculation of these equivalent schemes permits one to obtain the function of current drop with time in each studied dielectric with calculated constants and thus to evaluate values of initial currents. Submitted 23 Jun 19

PA 152T87

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SHORIN, S.N., doktor tekhm. nauk, prof., red.; SHCHEPKIN, S.I., zasl. deyatel'
nauki i tekhniki, prof., ptv. red.; LASTOVTSEV, A.M., prof. red.;
KARAVAYEV, N.M., prof., red.; KOKOREV, D.T., prof., red.; PETROKAS,
L.V., prof., red.; RESHCHIKOV, P.M., dots., red.; SOKOLOV, S.N., prof.,
red.; SOKOLOV, S.I., prof., red.; KHODZHAYEV, A.M., dots., red.;
LEBEDEY, K.I., kand. tekhm. nauk, dots. red.; TAIROVA, A.L., red. izdva; UVAROVA, A.F., tekhm. red.

[Investigation and calculation of heat engineering and power generating processes] Issledovaniia i raschety teploenergeticheskikh i energo-khimicheskikh protsessov; sbornik statei. Pod red. S.N.Shorina. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1961. 137 p.

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(MIRA 17:9)

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LEBEDEV, K. K.: "The transformation of lignin in lowland peat bogs."

Acad Sci Belorussian SSR. Department of Physicomathematical
and Technical Sciences. Minsk, 1956.

(Dissertation for the Degree of Candidate in Chemical Sciences.)

SO: Knizhnaya Letopis', No. 26, 1956

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LEBEDEV, KK

USSR/Chemical Technology - Chemical Products and Their Application. Treatment of Solid Mineral Fuels, I-12

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 62554

Author: Lebedev, K. K.

Institution: None

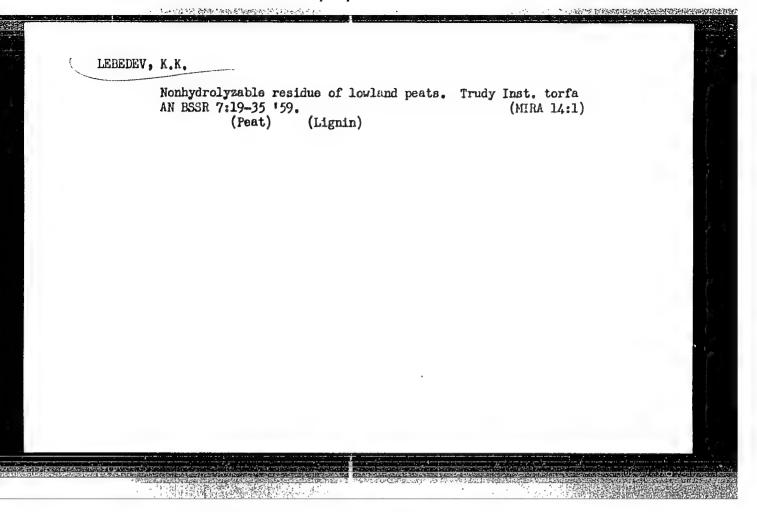
Title: On Determination of the Degree of Dispersion of Peat by Sedimentometric Methods

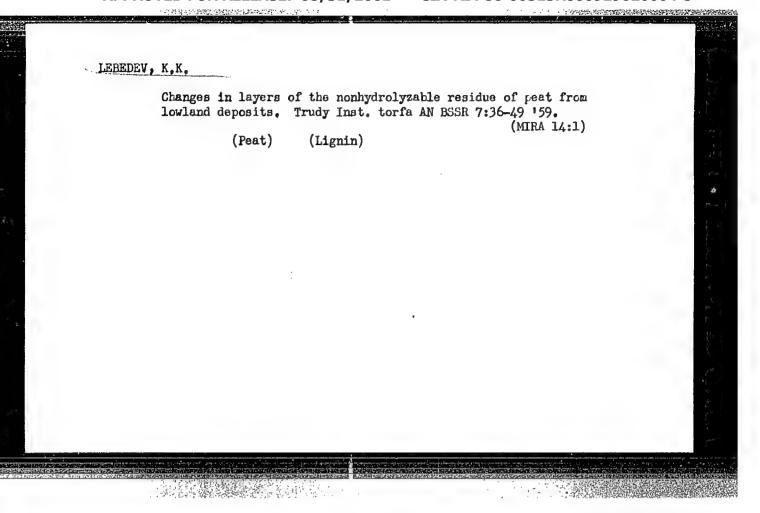
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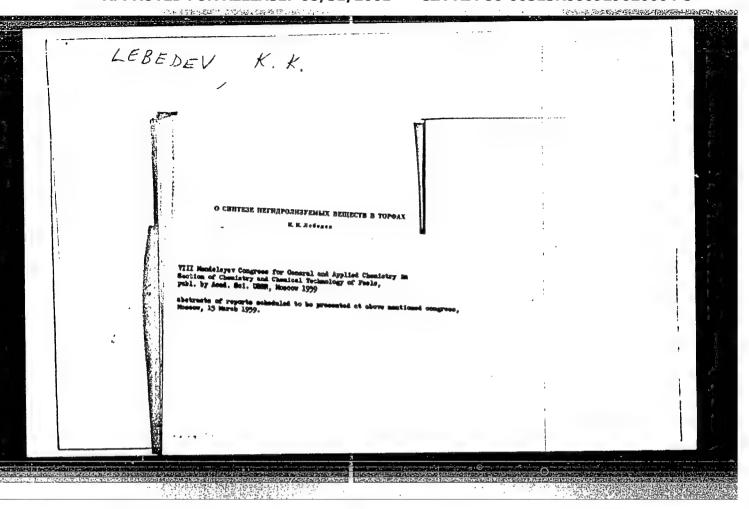
Periodical: Kolloid. zh., 1956, 18, No 1, 122-124

Abstract: Investigation of the dissolving action of water on peat on settling of aqueous suspensions of 5 varieties of peat for 2.5-30 days. It is shown that the amount of dissolved substances depends on organic as well as on mineral components of the peat and that a distortion of the results is especially pronounced with low concentrations and small particles. The standard pipette method is not applicable to peat. Recommended is the use of a proper correction of the results obtained by the more precise procedure of Volarovich and Churayev.

Card 1/1







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PHASE I BOOK EXPLOTTATION

SOV/2996

Akademiya nauk SSSR. Institut goryuchikh iskopayemykh

Genezis tverdykh goryuchikh iskopayemykh (Genesis Of Solid Fuels) Moscow, AN SSSR, 1959. 358 p. Errata slip inserted. 2,000 copies printed.

Sponsoring Agency: Vsesoyuznoye khimicheskoye obshchestvo im. D. I. Mendeleyeva. Moskovskoye otdeleniye.

Resp. Eds.: N. M. Karavayev, Corresponding Member, UBSR Academy of Sciences, and N. G. Titov, Doctor of Chemical Sciences; Ed. of Publishing House: A. L. Bankvitser; Tech. Ed.: I. F. Kuz'min.

PURPOSE: This collection of articles is intended for geochemists, geologists, and other specialists interested in the genesis of solid mineral fuels.

COVERAGE: The collection of papers on the genesis of solid mineral fuels has been prepared for presentation at the 2nd All-Union Conference on this subject. The formation of humic acids and peat from the decomposition of microorganisms and plants is discussed in connection with studies on the origin of hard coal and brown coal and on the role of certain mineral components in the coalforming process. The chemical composition of peat and the organic mass of

Card 1/5

Genesis Of Solid Fuels

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coal are malyzed and shown in a number of tables. Estonian "Kukkersite" oil shales are analyzed as are the brown coals of the Dnepropetrovsk basin. Metamorphism and carbonization of coal found in different parts of the Urals and the Ukrainian SSR are also discussed. The transformation of parent matter into combustible minerals is analyzed. References accompany individual articles.

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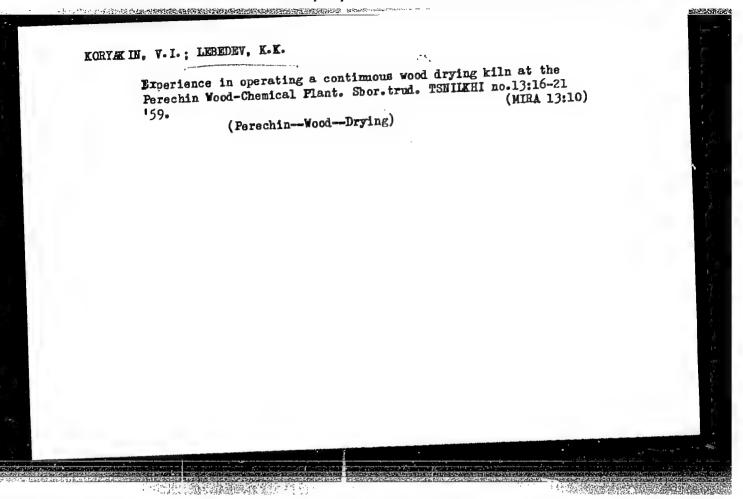
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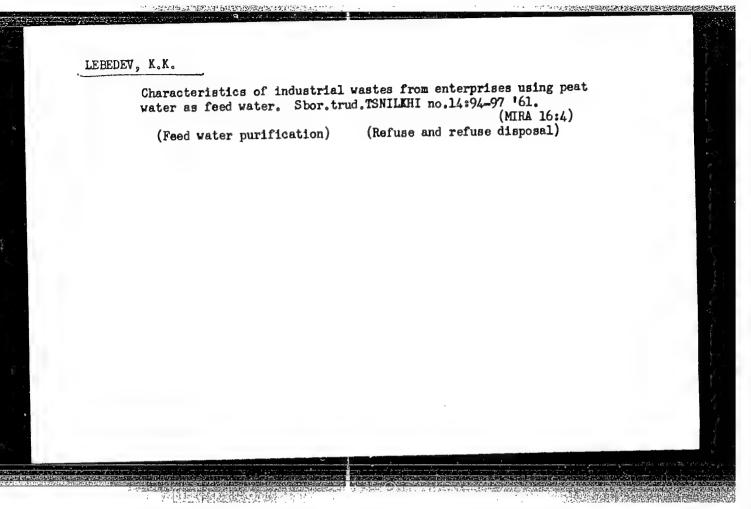


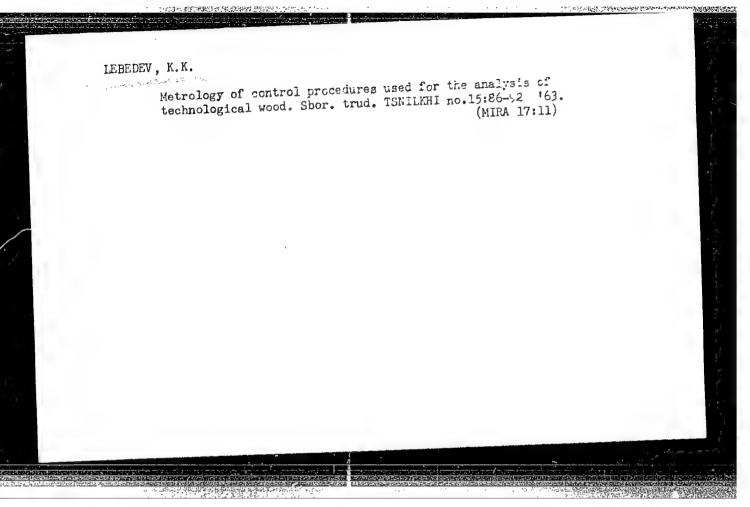
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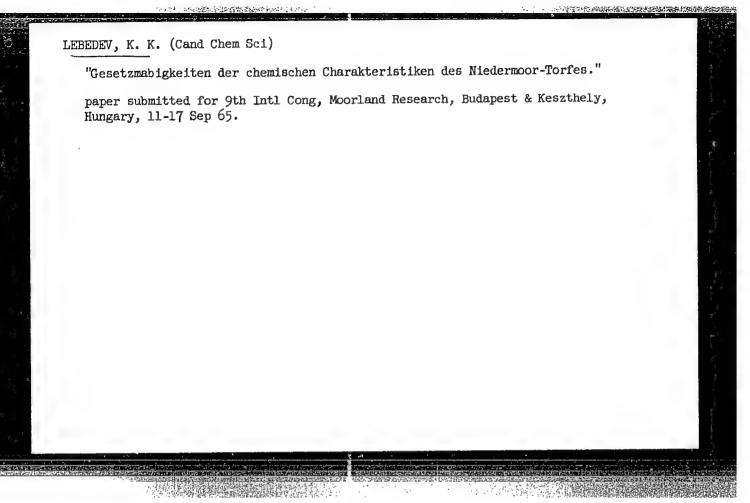
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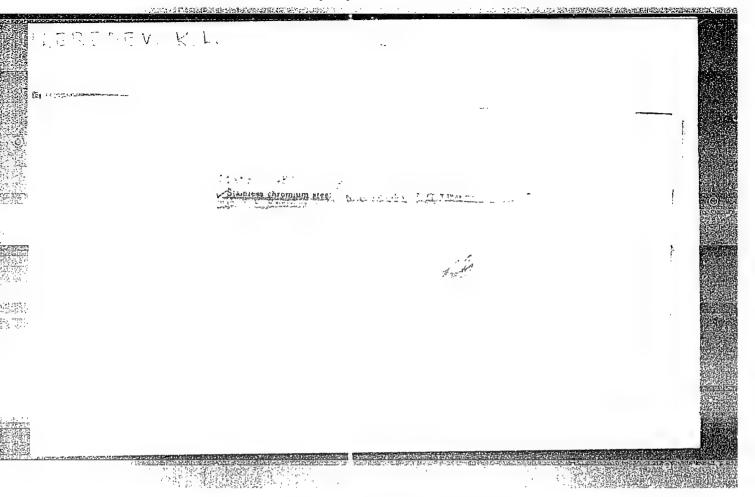
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Stepan Gavrilovich, prof., doktor tekhn.nauk; BELOLIKOV,
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Grigor yevich, prof., doktor tekhn.nauk; KROTOV, Gavriil Alekseyevich,
dotsent, kand.tekhn.nauk; LAVROV, Vladimir Nikolayevich, kand.tekhn.
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SO: Monthly List of Russian Accessions, Vol. 6 No. 9 December 1953.

DUBROVSKIY, Viktor Viktorovich; KERCHENSKIY, Mikhail Mikhaylovich; LEBEDEV, Konstantin Petrovich; PLOKHOV, Vladimir Ivanovich; SAVINA, Z.A., vedushchiy red.; POLOSINA, A.S., tekhn.red.

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L 7040-65 EPA/EWT(m)/EPF(n)-2/EPR/T-2/EWP(k)/EPA(bb)-2/EWP(q)/EWP(b)/ EWP(r) Paa-4/Pf-4/Ps-4 ASD(d)/ASD(m)-3/4EDC(b)/AFTC(a)/ASD(p)-3/AFETR ACCESSION NR: AT4037534 MJW/JD/WW/HW S/2563/63/000/224/0195/0202

AUTHOR: Lebedev, K. P.; Yesimova, M.N.

TITLE: Experimental production of cast turbine blades from heat resistant alloys

SOURCE: Leningrad. Politekhnicheskiy institut. Trudy*, no. 224, 1963. Liteyny*ye svoystva zharoprochny*kh splavov (Castability of heat-resistant alloys), 195-202

TOPIC TAGS: \(\frac{1}{2}\) gas turbine, gas turbine blade, cast gas turbine blade, heat resistant alloy, heat resistant alloy casting, alloy EI-612, steel 15Kh11MF

ABSTRACT: One of the principal deficiencies of cast rotor blades is the instability of their mechanical properties, and the requirement that rotor blades be tested under definite operating conditions. The authors therefore tested high-stress cast rotor blades made of different heat-resistant alloys, including those developed in the Kafedra liteynogo proizvodstva LPI (Department for Casting Production of the Leningrad Polytechnical Institute). Work was carried out with a cast blade, completely corresponding in form and dimensions to the model (a mechanically machined stamped blade.) Together with conventional free casting of the forms, centrifugal pressure was applied after filling the forms with metal to increase the hydrostatic pressure. In view of the

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positive effect of streamless casting on the quality of castings of film-forming alloys, a vacuum suction casting technique, developed at the Casting Laboratory, was also tested. The experiments were conducted on austenitic alloy 111 which contains neither titanium hor aluminum (and is consequently not an active film-forming alloy), austenitic alloy EI 612 containing 1% Ti, and steel 15Kh11MF of the martensite class. The authors found that a cast high-stress rotor blade can be obtained by free pouring provided that the alloy is not film-forming. A stable complex of mechanical properties is achieved by pouring through a casting gate system with slot feed. Alloy 111, which has relatively good casting properties, yields high quality cast rotor blades. When casting blades from alloys EI 612 and 15Kh11MF, despite the high values for tensile strength and yield point, the elongation is extremely low in the majority of cases with either centrifugal air pouring or the vacuum suction method. This is due to intensive film formation (in the case of EI 612) and non-uniform ferrite distribution (in the case of 15Kh11MF). Successful use of film-forming alloys of the EI 612 type for cast blades might be made possible by casting methods which ensure the absence of films during melting and pouring. This necessitates either melting and pouring in a vacuum or further development of the vacuum suction metal-feeding system. Experimentation

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showed that uniform ferrite distribution with optimum content of C, Cr, Si, and Ni in the alloy for a given rate of cooling may be achieved when easting blades of 15Kh11MF alloy. Centrifugal pouring can result in considerably improved feed conditions and, consequently, can ensure stable qualitative indices. Its practical utilization for film-forming alloys, however, requires a protective atmosphere. Orig. art. has: 4 tables and 5 figures.

ASSOCIATION: Leningradskiy politekhnicheskiy institut (Leningrad Polytechnical Institute)

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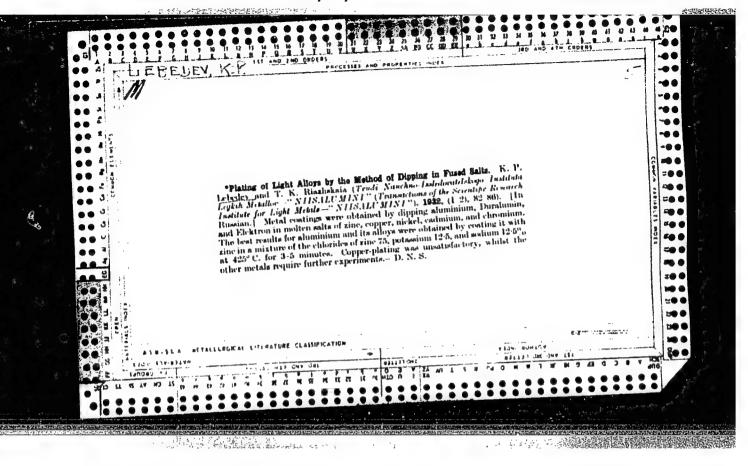
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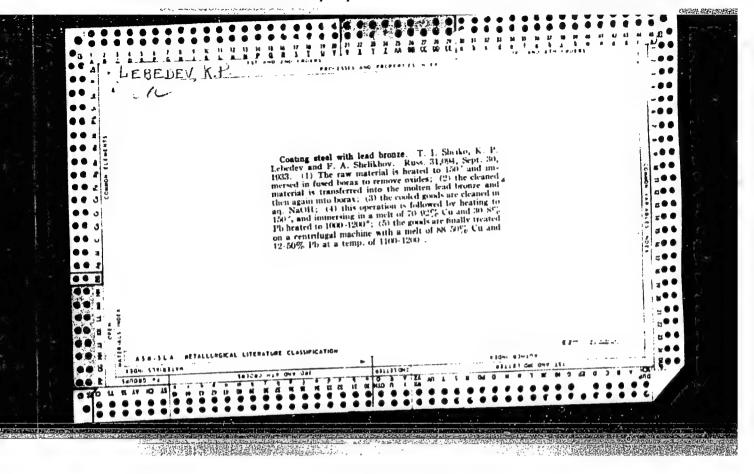
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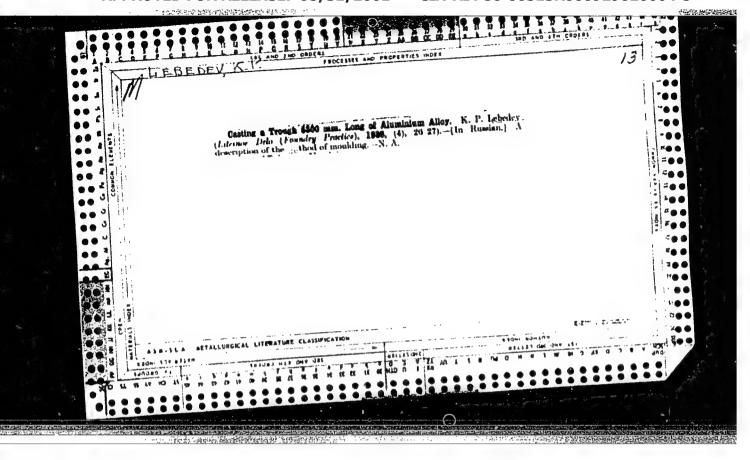
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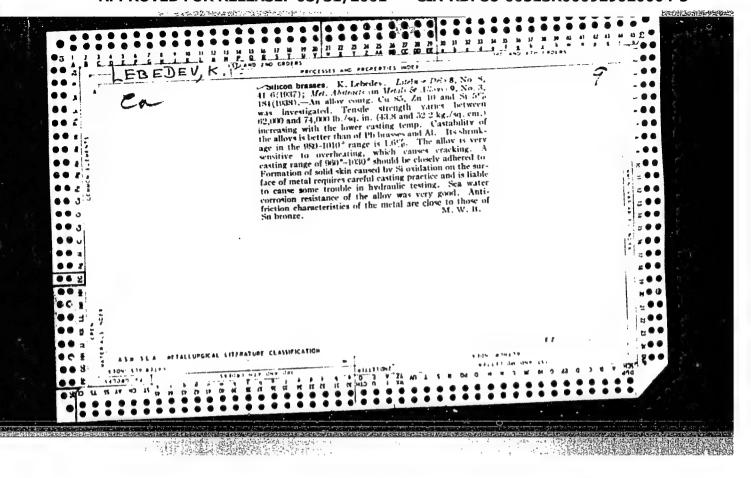


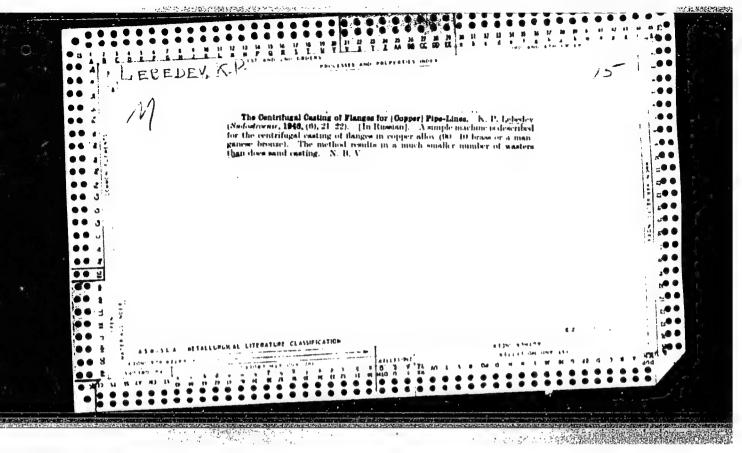
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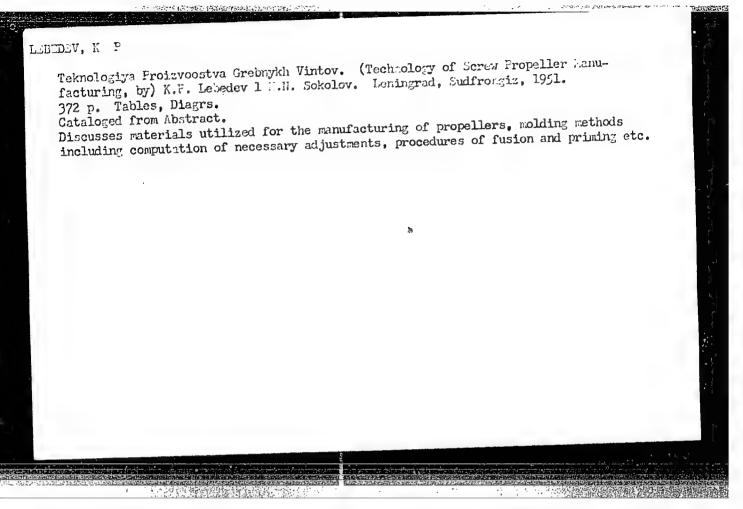
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HUSSIYAN, S.V.; GOLOVANOV, N.M.; LEBERGY, K.P., otvetstvennyy redaktor;
LITVINOV, L.F., redaktor; FHUMKIN, P.S., tekhnicheskiy redaktor

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K.P., inzhener, retsenzent; BARANOV, I.A., inzhener, redaktor;

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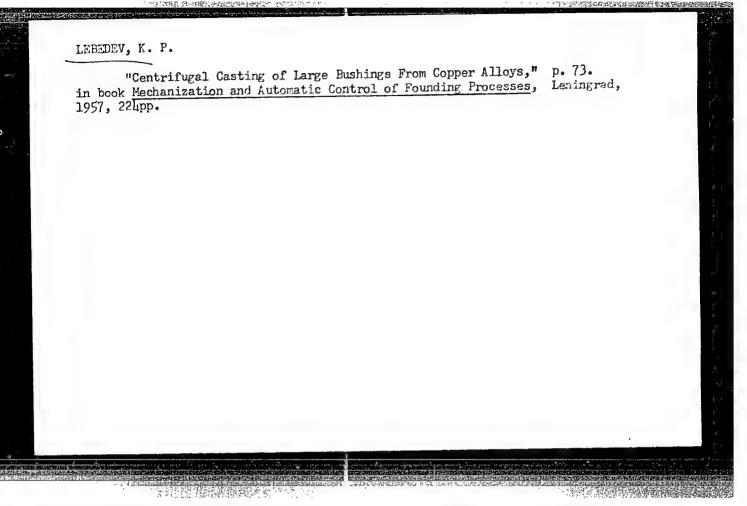
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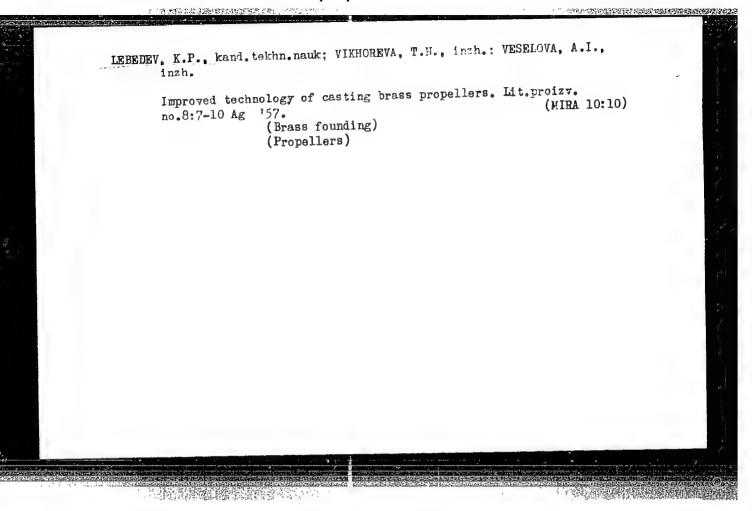
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NEKHENDZI, Yu.A., prof., doktor tekhn.nauk, otv.red. (Leningrad);
GIRSHOVICH, N.G., prof., doktor tekhn.nauk, red. (Leningrad);
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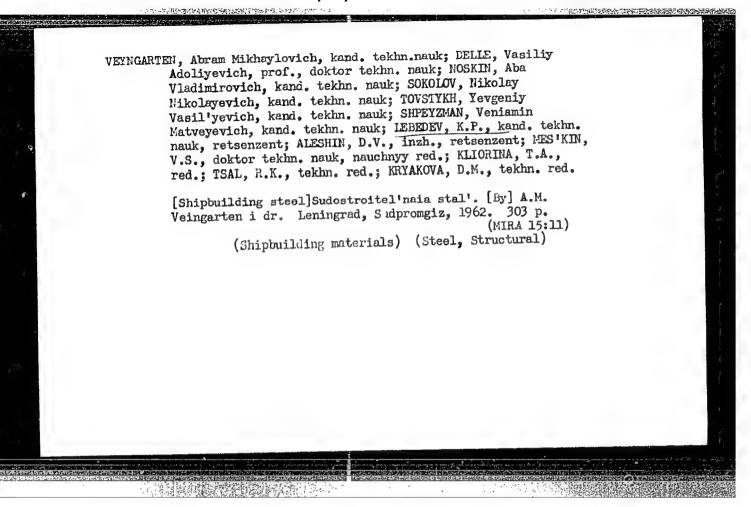
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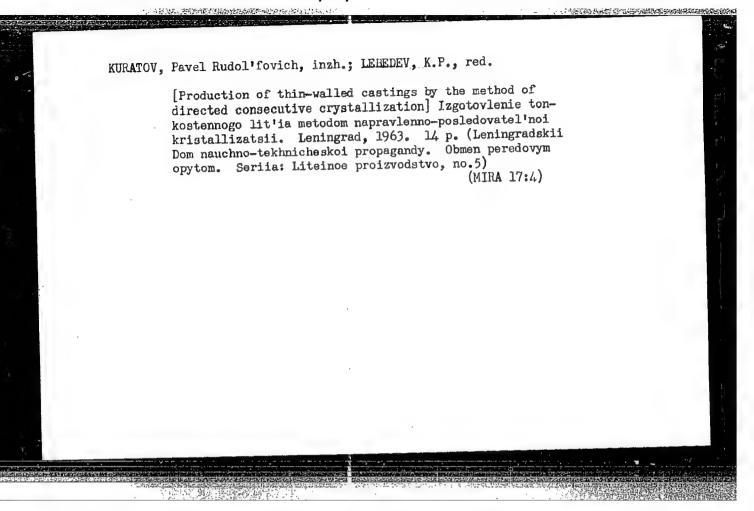
(Machinery industry) (Foundries-Equipment and supplies)

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Foundry and technological properties of LEMtsZhA 62-1-2-1-1 alloys.
Lit. proizv. no. 4:40-41 Ap '61.

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Expansion of ferrous and nonferrous alloys before shrinkage. Lit.proizv. (MIRA 16:4)

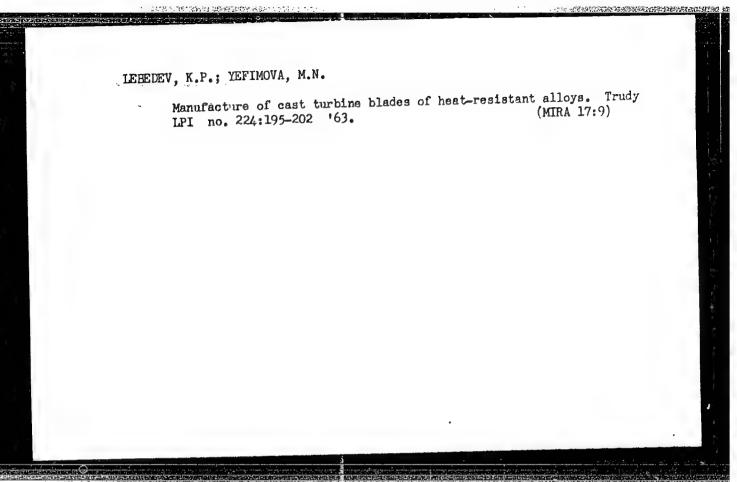
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SHABASHOV, Ya.F.; LEBEDEV, K.P.

Increasing the technical and economic indices of the melting process of loose and briquetted chips in electric furnaces.
TSvet. met. 36 no.4:84-87 Ap '63. (MIRA 16:4)

(Nonferrous metals—Wetallurgy)
(Scrap metals)



L 14966-65 EWT(m)/EWA(d)/EWP(t)/EWP(b) ASD(m)-3 MJW/JD/HW/JG/JT/MLK ACCESSION NR: AT4046855 S/0000/64/000/C00/0276/0283

AUTHOR: Nekhendizi, Yu, A.; Lebedev, K. P.

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TITLE: A heat-resistant cast alloy with nitrogen additions for temperatures of 600-700C

SOURCE: AN SSSR. Nauchny*y sovet po probleme zharoprochny*kh splavov. Issledovaniya staley i splavov (Studies on steels and alloys). Moscow, Izd-vo Nauka, 1964, 276-283

TOPIC TAGS: casting alloy heat resistant alloy, nitrogen containing alloy, chromium nickel alloy, austenitic steel, steel mechanical property / alloy PZh-2

ABSTRACT: The authors present an evaluation of the PZh-2 (P for polytechnical, Zh for heat-resistant) alloy, believed to be the best suited for casting processes among the alloys developed at their Polytechnical Institute to replace titanium and aluminum heat-resistant alloys which have lower casting properties. The alloy contains $\leqslant 0.1\%$ C, 16-18% Cr, 0.85-1.1% V, <0.02% P, 0.3-0.6 Si, 13-15% Ni, 0.9-1.1 Nb, <0.02% S, 1.0-1.5% Mn, 1.1-1.5% Mo, and 0.1-0.15% N, is characterized by a short (about 30C) liquid-to-solid state transition interval (1403-1371C), and qualifies well for casting pieces of fine cross

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ACCESSION NR: AT4046855

section and complex configuration. A large number of numerical values for the mechanical characteristics, stress-rupture strength, impact toughness, creep and fluidity of alloy samples, subjected to various thermal threatments, are presented in tables and diagrams, and are given an extensive theoretical and technical discussion. "N. P. Yermolayeva, p. D. Khinskiy, L. B. Zharovskaya, and T. A. Stepanova also took part in the study." Orig. art. has: 4 tables and 4 figures.

ASSOCIATION: Liteynaya laboratoriya Leningradskogo politekhnicheskogo instituta im. M. I. Kalinina (Casting Laboratory, Leningrad Polytechnical Institute)

SUBMITTED: 16Jun64

ENCL: 00

SUB CODE: MM

NO REF SOV: 005

OTHER: 001

Card 2/2

CIA-RDP86-00513R000929020004-5

ENT(m)/EPF(c)/EPE/ENA(d)/ENP(t)/ENP(b)_Pr-4/Ps-4 MJH/JD 5/0128/65/000/003/0001/0004 38959-65 ACCESSION NR: AP5008033 AUTHOR: Nekhendzi, Yu. A. (Doctor of technical sciences); Lebedev, K. P. (Candidate of technical sciences) TITLE: Nitrogen-hearing, cast, heat-resistant alloy SOURCE: Liteynoye proizvodstvo, no. 3, 1965, 1-4 TOPIC TAGS: cast alloy, heat resistant alloy, cast heat resistant alloy, nitrogen containing alloy, alloy property/PZh-2 alloy ABSTRACT: The Leningrad Polytechnical Institute has developed the PZh-2 cast, heat-resistant alloy (up to 0.1% C, 0.3-0.6% Si, 1.0-1.5% Mm, 16.0-18.0% Cr, 13.0-15.0% Ni, 0.85-1.1% V, 1.1-1.5% Mo, 0.9-1.1% Nb, 0.10-0.15% N). The alloy can be annealed at 1250C and aged at 750C or aged as-cast without annealing. Both heat treatments produce almost identical mechanical properties (see Table 1 of the Enclosure). The structure of the alloy was found to consist of austenite with inclusions of carbonitrides and intermetallic compounds, among which NbNC prevails. Carbon and nitrogen increase the quantity of carbonitrides and increase the strength and decrease ductility. Carbon appears to have a stronger effect than nitrogen. Annealing with aging raises the ductility and notch toughness at Card 1/82/

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ACCESSION NR: AP5008033

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high nitragen content more than does aging alone. Nitrogen also increases rupture strength. Tespecially at a low carbon content. Alloy with 0.07% C and 0.14% N withstood 1600 hr at 600C under a stress of 37 kg/mm², while alloy with 0.14% C and 0.16% N withstood only 693 hr under the same conditions. Precision cast PZh-2 alloy specimens withstood 26 kg/mm² stress for 19,154 hr at 600C with an elongation amounting to 10.4%. Adequate casting properties permit casting the PZh-2 alloy into intricate, thin-wall articles. The susceptibility of the alloy to hot cracking is somewhat nigher than that of 18—8 steel. Wacuum degassing of the alloy considerably increases the fluidity and ductility, but lowers its heat resistance due to the removal of nitrogen. Orig. art. has: 7 figures and 5 tables.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 01

SUB CODE: MM

NO REF SOV: 004

OTHER: 002

ATD PRESS: 3228

Card 2/3

CIA-RDP86-00513R000929020004-5

LEBEDEV, K. P.

USSR/Medicine - Disinfection Sanitation Sept 49

"Disinfecting the Air in Children's Institions, Filtering the Air of Microbes Through an Oiled Screen," D. I. Kentor, K. P. Lebedev, 2 1/2 pp

"Gig i San" No 9

Found that air stream from 125-watt electric fan filtered through oiled granite screen 165 x 255 cm in size reduced microflora of 48.2 cu m room by 62-69%. Method is thus more effective than oiled skirting formerly used and has fewer drawbacks. Suggests method be further tested and used in schools and childrens hospitals.

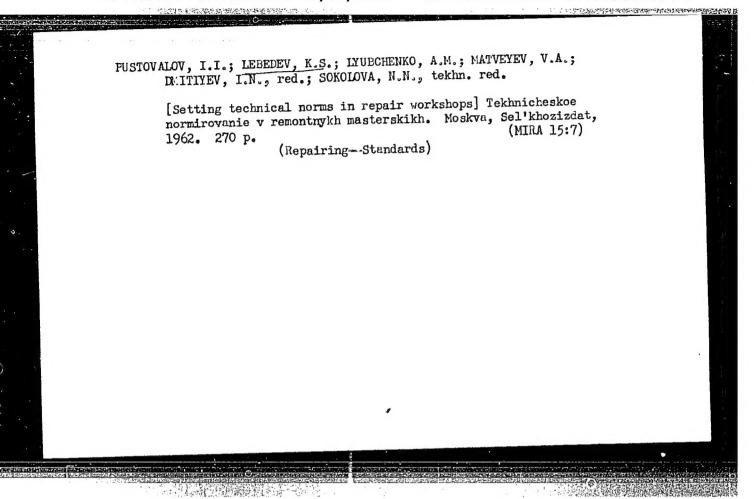
BA 153T74

PUSTOVALOV, I.I., inzh.; LEBEDEV, K.S., inzh.; LYUBCHENKO, A.M., inzh.; MATVEYEV, V.A., inzh., Prinimal uchastiye SHAPOSHNIKOV, A.V.. BLOKHINA, V.V., red.; PECHENKIN, I.V., tekhn.red.

[Approximate time norms for repair work; metal machining, fitting, fitting-assembly, electric welding, gas welding, and forging operations for cellective farms and state farms] Primernye normativy vremeni na remontnye raboty; mekhanicheskaia obrabotka metallov, slesarnye, slesarno-sborochnye, elektrosvarochnye, gazosvarochnye i kuznechnye raboty dlia kolkhozov i sovkhozov. Moskva, Izd-vo M-va sel'skogo khoz. SSSR, 1960. 199 p. (MIRA 13:6)

1. Russia (1923- U.S.S.R.) Gosudarstvennyy komitet po voprosam truda i zarabotnoy platy.

(Machine-shop practice)



Content of adrenaline in the blood in animals in intervention on chromaffin apparatus. Tr. Vsesoiuz. obsh. fiziol. no. 1:108 1952.

(CIML 24:1)

1. Delivered 23 December 1949, Kazen'.